

REMARKS

This Amendment and Response is submitted in response to the Office Action mailed 18 JULY 2003 and is timely filed on Monday 20 October 2003. Withdrawal of the rejection and reconsideration with an eye toward allowance is respectfully requested.

Claim Status

Claims 1-26 and 28-29 are pending after entry of the present amendment. Claims 1-27 stand rejected. Claims 1, 7, 11, 12, 16, 19, 20, and 21 are amended herein, Claim 27 is cancelled herein, and Claims 28-29 are added. A complete listing of all claims that are, or were in the application, along with an appropriate status identifier, is provided above in the section entitled "Amendments to the Claims". Markings are provided on claims amended in the present amendment.

Drawings

The Examiner objected to the drawings under 37 CFR §1.83(a), stating that claim 22's amended limitations and claims 25 and 27's limitations must be shown or the feature(s) canceled from the claims. Applicant respectfully submits that the amended limitations to claims 22 and 25 are shown in FIGS. 2 and 9. In particular, Fig. 2 depicts the physical view of a two-node cluster computer system 200 (see specification, page 11, lines 3-4). Fig. 9 depicts the logical view of the cluster system of Fig. 2. The RAID controllers 221 organize the devices 2061 to appear to the hosts 220 as SCSI disks 130 on SCSI channels 110. (see specification, page 11, line 32 – page 12, line 3). Applicant has cancelled claim 27, without admitting to the propriety of the objection and without prejudice or disclaimer towards presenting it in a related application.

Accordingly, Applicant trusts that the objection to the drawings under 37 CFR §1.83(a) will be withdrawn.

Claim Rejections – 35 U.S.C. §112

Claim 27 was rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Without admitting the propriety of the rejection, Applicant has cancelled claim 27 without prejudice or disclaimer towards presenting it in a related application.

Claim Rejection – 35 U.S.C. §102

Claims 21 and 23 were rejected under 35 U.S.C. §102(b) as being anticipated by Judd et. al. (U.S. Patent Number 5,768,623).

Judd discloses a "system for storing data for a plurality of host computers on a plurality of storage arrays so that data on each storage array can be accessed by any host computer" (Abstract, lines 1-3).

"When a data request is made by an application program to a first adapter through a host application interface for data that is stored in a storage array not primarily controlled by the first adapter, the data request is communicated through the adapter communication interface to the adapter primarily controlling the storage array in which the requested data is stored." (Abstract, lines 9-15).

In contrast, Applicant's amended claim 21 recites "first and second reservation tables accessible to the first and second bus controllers, respectively" and "input logic on said first controller receiving a request to reserve the logical input/output device and updating the first reservation table accordingly".

As the Examiner is aware, for a reference to anticipate a claim, the reference must teach every element of the claim (see M.P.E.P §2131).

Applicant respectfully submits that Judd is silent as to the feature of a reservation table accessible to a bus controller. Judd is limited to the disclosure of communicating a request to an adapter primarily controlling the storage array in which the requested data is stored. Claim 23 depends from and includes all limitations of Applicant's claim 21. Accordingly, Applicant submits that the 35 U.S.C. §102(b) rejection of claims 21 and 23 over Judd is improper and should be withdrawn.

Claim Rejections – 35 U.S.C. §103

Claims 1-3 and 5-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Judd in view of Hammersley et. al. (U.S. Patent Number 5,392,433).

Judd is discussed above.

Hammersley is generally directed to a method for the intraprocess locking of a shared resource. (Abstract, lines 1-2). Generally this assures that only one process may use a shared computer resource, such as a magnetic storage device, at one time (Abstract, lines 8-11).

In contrast, Applicant's amended claim 1 recites "communicatively coupling first and second nodes, having respective first and second bus controllers having respective first and second reservation tables", "updating the first reservation table to reflect reservation of the logical I/O device", and further "communicating by means of said bus from said first to said second controller a reservation request for said logical I/O device for updating by said second controller of said second reservation table, in response to said receiving". Applicant's amended independent claim 12 recites "updating the first reservation table to reflect release of the logical I/O device". In a somewhat analogous manner, Applicant's amended claims 7 and 11 recite "updating the first reservation table to reflect reservation of the logical I/O device" and "communicating in response to receiving said request, a reservation request for said logical I/O device from said first controller to a second controller of a second node for updating of a second reservation table by said second controller." Amended independent claim 16 recites "updating the first reservation table to reflect release of the logical I/O device". Amended independent claim 19 recites "means for updating the first reservation table to reflect reservation of the logical I/O device" and claim 20 recites "means for updating the first reservation table to reflect release of the logical I/O device".

Applicants note that to establish a *prima facie* case of obviousness there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference teachings. Further, the cited reference (or references when combined) must teach or suggest all the claim limitations. (See M.P.E.P. §2142).

First, Applicant respectfully submits that the Examiner has not provided a proper motivation to combine the references. The Examiner states generally that the motivation to combine would be that Hammersley enables one to reserve one particular shared resource for exclusive usage, that Hammersley enables one to acknowledge the reservation request's status, and that Hammersley enables one to free up one particular shared resource from exclusive usage. The Examiner's attention is respectfully drawn to In re Lee 61 USPQ2d 1430 (CA FC 2002). In this case, the Examiner rejected the claims under 35 U.S.C. §103 and stated that the required motivation "would be that the automatic demonstration mode is user friendly and functions as a tutorial". *Id* at 1435. The Federal Circuit stated that the Examiner did not adequately address the issue of motivation to combine. "This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority". *Id* at 1434. In the present case, Applicants submit that the Examiner has essentially used impermissible hindsight and 'common sense' to conclude that the combination of Judd and Hammersley should be made. This is legally incorrect under the Federal Circuit's analysis. Applicant further submits that the recitation of features by Hammersley (the ability to reserve one particular shared resource for exclusive usage, for example), is not equivalent to a motivation to combine that feature with the system disclosed by Judd, involving the communication of a data request to an adapter communication interface to the adapter primarily controlling the storage array in which the requested data is stored. Accordingly, Applicant submits that a proper motivation to combine has not been provided, and the 35 U.S.C. §103(a) rejection should be withdrawn.

Further, Applicant submits that the references, even when combined, do not teach or disclose all limitations of Applicant's amended independent claims 1, 7, 11, 12, 16, 19, and 20. As stated above, Applicant submits that the Judd reference is silent as to reservation tables, or the updating of those tables. Hammersley discloses locks (see Abstract), but is silent as to the feature of a reservation table, or the updating of such a table as recited in Applicant's amended claims 1 and 7. Claims 2-3 and 5-6 depend from and include all limitations of Applicant's independent claim 1. Claims 8-10 depend from and include all limitations of Applicant's independent claim 7. Claims 13-15 depend from and include all limitations of Applicant's independent claim 12. Claims 17-18 depend from and include all limitations of Applicant's claim 16. Accordingly, Applicant's submit that the 35 U.S.C. §103(a) rejection of claims 1-3 and 5-20 over Judd in view of Hammersley is improper and should be withdrawn.

Claims 22 and 25 were rejected under 35 U.S.C. §103(a) as being anticipated by the combination of the Judd reference and "Quick Guide to Partitioning a Hard Drive" by New Logic Computers.

Judd is discussed above.

New Logic Computers discloses a guide to partitioning a hard drive.

In contrast, claims 22 and 25 depend from and include all limitations of Applicant's claim 21 including "first and second reservation tables accessible to the first and second bus controllers, respectively" and "input logic on said first controller receiving a request to reserve the logical input/output device and updating the first reservation table accordingly".

As discussed above, to establish a *prima facie* case of obviousness there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference teachings. Further, the cited reference (or references when combined) must teach or suggest all the claim limitations. (See M.P.E.P. §2142).

Applicant respectfully submits that the Examiner has not provided the necessary motivation to combine the references. The Examiner suggests that the motivation to combine Judd with the teachings of New Logic Computers would be for better hard drive space management and personal preference. As stated above, the Examiner's attention is drawn to In re Lee 61 USPQ2d 1430 (CA FC 2002). "This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority". Id at 1434. Applicant submits that the Examiner has stated an advantage of the hard drive partitioning disclosed by New Logic Computers, and this advantage ("better hard drive space management and personal preference") is drawn from the Examiner's inference, and not the references themselves. Further, Applicant's submit that articulation of the benefits of the partitioning procedure described by New Logic Computer is not equivalent to a motivation to combine those teachings with the system of Judd, which communicates a request through an adapter communication interface to an adapter primarily controlling the storage array in which the requested data is stored. Accordingly, Applicant submits that the 35 U.S.C. §103(a) rejection is improper and should be withdrawn.

Further, Applicant submits that the references, even when combined, fail to disclose or suggest all claim limitations. As stated above, Applicant submits that Judd is silent as to reservation tables. Applicant further submits that New Logic Computer is silent as to reservation tables, and is limited to the disclosure of disk partitioning. Claims 22 and 25 depend from and include all limitations of Applicant's claim 21. Accordingly, Applicant submits that the 35 U.S.C. §103(a) rejection of claims 22 and 25 over Judd in view of New Logic Computer is improper, and should be withdrawn.

Claim 24 was rejected under 35 U.S.C. §103(a) over Judd and "What is RAID" by Neuffer.

Judd is discussed above.

Neuffer describes a RAID system.

In contrast, claim 24 depends from and includes all limitations of Applicant's claim 1 including "communicatively coupling first and second nodes, having respective first and second bus controllers having respective first and second reservation tables", "updating the first reservation table to reflect reservation of the logical I/O device", and further "communicating by means of said bus from said first to

said second controller a reservation request for said logical I/O device for updating by said second controller of said second reservation table, in response to said receiving".

As discussed above, to establish a *prima facie* case of obviousness there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference teachings. Further, the cited reference (or references when combined) must teach or suggest all the claim limitations. (See M.P.E.P. §2142).

Applicant respectfully submits that the Examiner has not provided the necessary motivation to combine the references. The Examiner suggests that the motivation to combine Judd with the teachings of Neuffer would be for easier access to a huge storage space. As stated above, the Examiner's attention is drawn to In re Lee 61 USPQ2d 1430 (CA FC 2002). "This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority". Id at 1434. Applicant submits that the Examiner has stated an advantage of the hard drive partitioning disclosed by New Logic Computers, and this advantage ("easier access to a huge storage space") is drawn from the Examiner's inference, impermissible hindsight, and not the references themselves. Further, Applicant's submit that articulation of the benefits of the partitioning procedure described by Neuffer is not equivalent to a motivation to combine those teachings with the system of Judd, which communicates a request through an adapter communication interface to an adapter primarily controlling the storage array in which the requested data is stored. Accordingly, Applicant submits that the 35 U.S.C. §103(a) rejection is improper and should be withdrawn.

Further, Applicant submits that the references, even when combined, fail to disclose or suggest all claim limitations. As stated above, Applicant submits that Judd is silent as to reservation tables. Applicant further submits that Neuffer is silent as to reservation tables, and is limited to the disclosure of disk partitioning. Claim 24 depends from and includes all limitations of Applicant's claim 1. Accordingly, Applicant submits that the 35 U.S.C. §103(a) rejection of claim 24 over Judd in view of Neuffer is improper, and should be withdrawn.

Claims 26-27 were rejected under 35 U.S.C. §103(a) over the combination of Judd and Ofer (U.S. Patent Number 6,209,059).

As a preliminary matter, Applicant has cancelled claim 27 without prejudice or disclaimer towards presenting it in a related application.

Judd is discussed above.

Ofer is directed toward a method of dynamically reconfiguring the logical devices in a storage system (see Abstract). "The method includes manipulating the request queues associated with host controllers within the storage system." (see Abstract).

In contrast, claim 26 depends from and include all limitations of Applicant's claim 11 including "updating the first reservation table to reflect reservation of the logical I/O device".

As discussed above, to establish a *prima facie* case of obviousness there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference teachings. Further, the cited reference (or references when combined) must teach or suggest all the claim limitations. (See M.P.E.P. §2142).

Applicant respectfully submits that the Examiner has not provided the necessary motivation to combine the references. The Examiner suggests that the motivation to combine Judd with the teachings of Ofer would be because Ofer discloses reconfiguration of logic devices without suffering from system downtime. As stated above, the Examiner's attention is drawn to In re Lee 61 USPQ2d 1430 (CA FC 2002). "This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority". Id at 1434. Applicant submits that articulation of the benefits of the system described by Ofer is not equivalent to a motivation to combine those teachings with the system of Judd, which communicates a request through an adapter communication interface to an adapter primarily controlling the storage array in which the requested data is stored. Accordingly, Applicant submits that the 35 U.S.C. §103(a) rejection is improper and should be withdrawn.

Further, Applicant submits that the references, even when combined, fail to disclose or suggest all claim limitations. As stated above, Applicant submits that Judd is silent as to reservation tables. Applicant further submits that Ofer is silent as to reservation tables, and is limited to the disclosure of the manipulation of request queues. Claim 26 depends from and includes all limitations of Applicant's claim 11. Accordingly, Applicant submits that the 35 U.S.C. §103(a) rejection of claim 26 over Judd in view of Ofer is improper, and should be withdrawn.

Claim 4 was rejected under 35 U.S.C. §103(a) as being unpatentable over Judd in view of Hammersley, and in further view of Barlow (U.S. Patent Number 4,096,569).

Judd and Hammersley are discussed above.

Barlow is directed toward a common electrical bus for coupling a plurality of units in a data processing system (see Abstract).

In contrast, Applicant's claim 4 depends from and includes all limitations of independent claim 1 including "updating the first reservation table to reflect reservation of the logical I/O device".

As discussed above, to establish a *prima facie* case of obviousness there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference teachings. Further, the cited reference (or references when combined) must teach or suggest all the claim limitations. (See M.P.E.P. §2142).

Applicant respectfully submits that the Examiner has not provided the necessary motivation to combine the references. The Examiner suggests that the motivation to combine Judd with the teachings of Barlow would be because Barlow teaches one how to handle the failure exceptions. As stated above, the Examiner's attention is drawn to In re Lee 61 USPQ2d 1430 (CA FC 2002). "This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown

authority". Id at 1434. Applicant submits that articulation of the benefits or elements of the system described by Barlow is not equivalent to a motivation to combine those teachings with the system of Judd, which communicates a request through an adapter communication interface to an adapter primarily controlling the storage array in which the requested data is stored. Accordingly, Applicant submits that the 35 U.S.C. §103(a) rejection is improper and should be withdrawn.

Further, Applicant submits that the references, even when combined, fail to disclose or suggest all claim limitations. As stated above, Applicant submits that Judd is silent as to reservation tables. Applicant further submits that Barlow is silent as to reservation tables, and is limited to the disclosure of electrical buses. Claim 4 depends from and includes all limitations of Applicant's claim 1. Accordingly, Applicant submits that the 35 U.S.C. §103(a) rejection of claim 26 over Judd in view of Ofer is improper, and should be withdrawn.

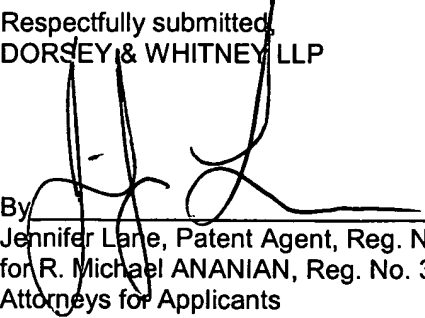
New Claims

Applicants have added new claims 28 and 29 which further describe features of an embodiment of a reservation table, or further method limitations not disclosed in the cited art.

CONCLUSION

Applicants submit the claims are in condition for allowance, and notification of such is respectfully requested. If after review, the Examiner feels there are further unresolved issues, the Examiner is invited to call the undersigned at (415) 781-1989.

Respectfully submitted,
DORSEY & WHITNEY LLP

By 
Jennifer Lane, Patent Agent, Reg. No. 51,916
for R. Michael ANANIAN, Reg. No. 35,050
Attorneys for Applicants
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Four Embarcadero Center - Suite 3400
San Francisco, California 94111-4187
Tel.: (415) 781-1989
Fax: (415) 398-3249
SF-1122272